

**Diamond Head Oil Refinery
Kearny, New Jersey**

OUTLINE SCOPE OF WORK

The site is located along Harrison Avenue in Kearny, Hudson County, New Jersey and is comprised of approximately 15 acres of currently undeveloped land. Former known uses at the site have included landfill operations (western portion of the site) and an oil recycling facility (eastern portion of the site).

The following scope of work is designed to evaluate the type, distribution and concentration of soil and/or groundwater contamination as the result of historical site use.

Task I Data Review - All existing data will be reviewed in order to understand site conditions and work that has been completed to date.

Task II RI/FS Work Plan, Sampling/Analysis Plan and Health & Safety Plan - Converse will prepare a site specific Remedial Investigation (RI) work plan. The work plan will provide a description of the proposed investigation and will be based on pre-existing data and site conditions. A separate Health and Safety plan, and Sampling and Analysis plan (SAP) will be prepared.

Task III Field Investigation

- a). Subsurface Soil Sampling - Converse will arrange for a subsurface utility mark-out prior to drilling and stake-out of the proposed drilling locations. Utilizing a CME truck mounted drilling rig, we will advance a number of borings to an approximate depth of four (4) feet below the water table. Locations will be determined during the formulation of the work plan. It is anticipated that the water table will be encountered at approximately 5 to 10 feet below grade. Soil samples will be collected and scanned for volatile organic compounds with a photo-ionization detector (PID). Soils will be classified in accordance with the Unified Soil Classification System (USCS) and a boring log will be maintained for each boring location. A certain percent of the highest of the total samples will be submitted to an analytical laboratory to undergo testing for parameters of concern.
- b). Hydropunch Sampling - A single groundwater sample will be collected from a number of boring locations using a hydropunch type technique. The locations will be based on evidence of contamination and suspected groundwater flow direction. Each of



the groundwater samples will be submitted to an analytical laboratory to undergo testing for parameters of concern.

- c.) Monitoring Wells - A number of boring locations from Task III-b will be selected for installation of groundwater monitoring wells. The well design will be based on the site specific geologic data ascertained during the boring program and the well locations will be based on the results of the hydropunch and soil analysis. All of the wells will be installed by a New Jersey licensed well driller.
- d.) Surface Soil Samples - A number of soil samples will be collected from areas of suspected environmental concern (i.e. staining). The samples will be tested for parameters of concern.
- e.) Ecological Baseline Evaluation - A baseline ecological evaluation of the site will be conducted to evaluate the potential for adverse effect to the ecosystem as the result of site contamination. This will include the collection and testing of surface water samples for parameters of concern.
- f.) Site Survey - A New Jersey licensed surveyor will survey the X, Y and Z coordinance of all boring and sample locations, complete all necessary NJDEP forms, and plot a scaled site drawing. In addition, surveyor will check the accuracy of the existing boundary survey.

Task IV Data Analysis - The data will be analyzed with respect to type and characteristics, nature and extent, potential sources, contaminant fate and transport.

Task V Phase I Remedial Investigation Report - The results will be presented in a draft RI report. The report will summarize field activities, site characterization, sources of contamination and will include drawings showing distribution of contaminants with discussion regarding cause/effect relationships. In addition, we will provide conclusions as to the nature of soil/groundwater contamination and recommendations with respect to a Phase II RI investigation.

NOTE - The RI/FS requirements regarding Development and Screening of Remedial Alternatives and Detailed Analysis of Remedial Alternatives would be conducted in conjunction with the Phase II RI.